

## Crystal Mountain Development Plan – Brief 3:

### Critical issues regarding water

*“Water is what will ultimately determine our island’s population capacity. There have been many more reports this year about wells going dry, sediment in people’s water and boil water advisories,”* **Trustees Tahirih Rockafella and Jane Wolverton, Trustee Report Active Page, September 2021**

*“So judging by the groundwater use and the risk of salt water intrusion on the areas closer to the coast and the well density, there’s a lot of wells there... so even though there is a lot of recharge there is... a high amount of water use in that groundwater region compared to other areas in the north... So putting it all together that creates a highly vulnerable situation.”* William Shulba, Islands Trust Freshwater Specialist, speaking about the area of the proposed Crystal Mountain retreat development, Galiano Island Local Trust Committee Sept. 7, 2021. See map below.

### CM Proposal in a Highly Vulnerable Groundwater Area

*“A highly vulnerable situation”, “areas that are in need of critical attention”* – that’s how the Islands Trust Fresh Water Specialist describes the area where the Crystal Mountain Society (CMS) wants to develop a year-round 22-unit retreat centre for international and domestic visitors on land currently zoned for forest use only.



Source: Presentation by W. Shulba, Groundwater Sustainability Implementation Project, Galiano OCP

Curiously, Islands Trust Planning staff made no reference to these critical classifications when they declared there's enough water from one of CMS' existing wells on the property to support the retreat's intensive year-round water use without affecting neighbouring wells.

## **Serious Underestimate of Water Use**

At the same time, staff are seriously underestimating how much water CMS will need to run its operations.

In October 2020, the planner reported that a pump test result on the well CMS is planning to use was 4,069 litres per day (L/d). Once accounting for the 2275 L/d required under Galiano's Land Use Bylaw for the caretaker residence, that leaves only 1,794 L/d for retreat operations involving up to 19 resident retreatants in the main area, for a per person amount of less than 95 L/d per person, not counting support staff, teachers and an undisclosed number of retreatants accommodated elsewhere on Galiano.

This is well below the standard established by Natural Resources Canada of 249 L/d per person.

CMS' Water Management Plan Overview presented to the LTC last April envisages "maximum peak daily demand" as 3,052 litres per day. The planner told the Sept. 7/21 LTC meeting that "the proposed water use in the water report is a maximum of 2,890 L/d". For the Upper Ridge, where a well has yet to be drilled, the Water Management Plan Overview estimates water consumption will be only 94.6 L/d for each of the three visitors accommodated, not counting support staff. In all cases, these numbers are far below the NRCan standard for daily per person water demand.

These low-ball figures bear no relation to the requirements of Galiano's Land Use Bylaw (LUB). The LUB sets out strict allowances for daily water demand "for each building, structure or use of land permitted by this bylaw," resulting from a subdivision, which this application clearly would be. Complying with the bylaw would require at least 2,275 L per day for "each building, structure or use of land", 3,185 L if it was classified as visitor accommodation and 3,640 L for a commercial development.

## **Ignores effects of climate change on water availability**

Planning staff are relying on a 2015 hydrogeological report, but:

- The report was written six years before climate change has deepened and extended dry seasons and increased evaporation.
- The 2015 report relied on a 12-hour pump test performed in October, even though the industry standard for a pump test is 72 hours and maximum water demand will be in the dry summer months.
- During this limited pump test no neighbouring wells were monitored for potential interference.
- No data logging has been done on either of the two other existing wells on the property to assess fluctuating water levels in the aquifer.
- No assessment has been done on the impact of the additional well the applicant plans to drill on its upper ridge.
- Planners have never asked for data from the Spotlight Cove community, which shows a negative effect on groundwater quality during the dry summer months, or the adjacent properties on Clementine Lane and Dobson Lane.

## Non-Compliance with Islands Trust Water Directives

In his report to the LTC September 7, 2021, the Planner checked off the Islands Trust Policy Statement directives about water.

*"Local Trust Committees and Island Municipalities shall in their official community plans and regulatory bylaws address measures that ensure that neither the density or intensity of land use is increased in areas which are known to have a problem with the quality or quantity of the supply of freshwater, water quality is maintained and existing, anticipated and seasonal demands for water are considered and allowed for."*

*Local Trust Committees and Island Municipalities shall in their official community plans and regulatory bylaws address measures that ensure water use is not to the detriment of in-stream users.*

**No work has been done to comply with these directives.** And the numbers regarding water consumption don't add up. So why did the planner check the directives off? LTC chair Dan Rogers was right to say he was not prepared to sign off on any matters concerning water.

Instead, trustees are now requiring CMS to place a data logger in one of their secondary wells to monitor aquifer levels from Oct. 2021 and provide data to the LTC by January 2022.

However, to get an effective view of the state of the aquifer from which CMS are intending to draw large amounts of water, the LTC should require data-logging to continue well into the next dry season. That way the Trust will know exactly when water levels drop and how low they go in the summer months when the water use in the proposed retreat will be greatest. That's what the planner, himself, said, while questioning the value of limited data logging this fall.

At the same time, LTC must require monitoring of wells in the neighbourhood, particularly the wells downstream from the CMS development in Spotlight Cove and wells on adjacent properties on Clementine Lane and Dobson Lane.

Otherwise, trustees will be leaving neighbours in the dark, trusting out-of-date information and relying on water consumption estimates that defy local bylaws and common sense.

Water quality and availability are critical issues for all of Galiano, including the vulnerable North End neighbourhood (see map above). The CMS application provides no meaningful assurances their proposal won't negatively affect freshwater.

*This document (Brief 3 of 5) was prepared by Galiano residents and landowners who are concerned about the Crystal Mountain application: Sheila Anderson, Serena Coutts, Jenna Falk, Akasha Forest, Suzanne Fournier, Dan Gaucher, Bob Grist, Diana Lilly, Brad Lockett, Pat Mayhill, Ian Mayhill, Tom Mommsen, Art Moses, Sandy Pottle, John Ronsley, Risa Smith*